

Remarks and Arguments

Claims 1-4, 6-10, 12-14, 16-23 remain in this application. Claim 1 and Claim 6 have been amended. Claims 17-20 have previously been withdrawn.

1. § 102 Rejections

The Examiner has rejected claims 1-3, 6 and 8 under 35 U.S.C. § 102(b) as being anticipated by Swedberg, U.S. Patent No. 5,085,756.

The Examiner asserts that Swedberg teaches a capillary tube having an inlet and porous frit/filter. The Examiner also asserts that Swedberg teaches that capillaries can be made of fused silica or borosilicate glass (transparent materials).

The Examiner has also rejected claims 1-3, 6, 8 and 9 under 35 U.S.C. § 102(b) as being anticipated by He, et al, U.S. Publication No. 2003-0049862.

The Examiner asserts that He discloses a microfluidic device comprising microcolumns which may be made of glass or polymer materials, and that each microcolumn can comprise a filter membrane.

Applicant maintains the contention that the teachings of Swedberg and/or He do not anticipate the present invention since the filter comprises a plurality of smaller capillaries. Further, claim 1, as amended now requires that each of the small capillaries be capillary tubes further distinguishing it from the cited references.

In the present invention, the claimed invention as represented by independent claims 1 and 14 are directed to:

Swedberg discloses the use of porous frit, gel or a silica plug as the filtering means in Column 4. The randomness of the porosity of these materials would be incapable of providing the uniformity necessary to accomplish the filtering achievable by the present invention. The porosity provided by the frits, gels and sintered silica disclosed by Swedberg would be randomly sized and randomly dispersed as compared to the defined holes provided by the plurality of smaller capillary tubes disclosed by the Applicant. Claims 1 and 14 of the present invention recite a limitation where a porous filter is integrated with the transparent capillary, the filter structurally being formed from a plurality of smaller capillary tubes. An example of this structural difference is shown in Fig. 2 and Fig. 3 and described in paragraphs 0029 through 0032. Similarly, the He

device discloses a porous substrate or filter membrane in paragraph [0056] incorporated into a top or remote major surface of a microcolumn (transparent capillary) and in paragraph [0059] a modular approach to arranging the microcolumns is described. The use of a plurality of smaller capillary tubes to produce a porous filter associated with the transparent capillary is not disclosed in the He reference.

Swedberg and/or He must, in order to anticipate the present invention, contain each and every limitation disclosed in the claim. Since Swedberg and/or He do not disclose, teach or suggest a filter having this limitation, thus claims 1 and 14 are patentably distinguishable therefrom. Claims 2, 3, 6, 8 and 9 being dependent from claim 1 all include this limitation and thus are also patentably distinguishable from Swedberg and He.

2. § 103 Rejections

The Examiner has rejected claim 4 under 35 U.S.C. § 103(a) as being unpatentable for obviousness over Swedberg or He in view of Chu, et al (US 5,985,164), claim 7 under 35 U.S.C. § 103(a) as being unpatentable for obviousness over Swedberg or He in view of Shukla, et al (US 6416716), claim 10 under 35 U.S.C. § 103(a) as being unpatentable for obviousness over Swedberg or He in view of Cole, et al (US 5879949), and claim 13 under 35 U.S.C. § 103(a) as being unpatentable for obviousness over Swedberg or He in view of Roach, et al (US 20010005489). The Examiner has rejected claims 12 and 21-23 under 35 U.S.C. § 103(a) as being unpatentable for obviousness over Swedberg. The Examiner has rejected claims 14 and 16 under 35 U.S.C. § 103(a) as being unpatentable for obviousness over He.

In order to establish a prima facie case of obviousness, Swedberg or He independently or in view of Chu, Shukla, Cole or Roach must teach or suggest all of the claim limitations. As discussed above, claim 1, from which claims 4, 7, 10, 12, 13 and 21-23 are dependent, and claim 14, from which claim 16 is dependent, are in allowable form, since they include the limitation of the filter structurally being formed from a plurality of smaller capillary tubes as discussed above. Therefore, claims 4, 7, 10, 12, 13 and 21-23, being dependent on claim 1, and claim 16 being dependent on claim 14 also contain this limitation, while Swedberg or He independently or in view of Chu, Shukla,

Cole or Roach do not teach this limitation; so the rejection of claims 4, 7, 10, 12, 13, 14, 16, 21-23 as being obvious is now moot.

Based upon the above amendments, remarks, and papers of record, Applicant believes the pending claims of the above-captioned application are in allowable form and patentable over the prior art of record. Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

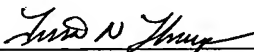
Applicant believes that no extension of time is necessary to make this Response timely. Should Applicant be in error, Applicant respectfully requests that the Office grant such time extension pursuant to 37 C.F.R. § 1.136(a) as necessary to make this Reply timely, and hereby authorizes the Office to charge any necessary fee or surcharge with respect to said time extension to the deposit account of the undersigned firm of attorneys, Deposit Account 03-3325.

Please direct any questions or comments to Tina N. Thompson at (607) 974-1028.

Respectfully submitted,

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Date: August 17, 2006



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